REMARKS

I. PRIOR ART REJECTIONS

On page 2 of the Office Action, the Examiner rejected Claims 1, 3, 5-7, 10, 11, 13, 15-17 and 20-26 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,150,401 to Ashby, III et al. ("Ashby") in view of U.S. Patent No. 4,134,070 to Henderson et al. ("Henderson"). On page 9 of the Office Action, the Examiner rejected Claims 8 and 18 under 35 U.S.C. 103(a) as being unpatentable over Ashby in view of Henderson, and further in view of U.S. Patent No. 6,131,084 to Hardwick. On page 9-10 of the Office Action, the Examiner rejected Claims 9 and 19 under 35 U.S.C. 103(a) as being unpatentable over Ashby in view of Henderson, and further in view of U.S. Patent No. 6,366,117 B1 to Pang et al. ("Pang"). In response to the Examiner's rejections, Applicants respectfully submit that the claims as previously presented are patentably distinct over the cited prior art.

The Claimed Invention

The claimed invention relates to a microphone unit that interfaces with an existing two way analog radio to provide or receive encrypted messages from the radio. The microphone unit is a separate unit from the radio that detachably connects to the two way radio via a detachable cable using common interface means (such as a plug/jack), thereby allowing existing two way radios to be used to transmit and received encrypted signals. No modification or customization of the radio is necessary in order for the microphone unit to work with the radio because the two units simply interface through the detachable cable that attaches to the existing plug/jack of the

radio. For this reason, the microphone unit is compatible with most types of existing two way radios.

The microphone unit functions to convert voice into encrypted analog signals, or, conversely convert encrypted analog signals to audio signals. Claim 1 relates to a microphone unit that converts voice to an encrypted analog signal for output to the two way radio via the detachable cable, while claim 11 relates to a microphone unit that receives an encrypted analog signal from the two way radio via the detachable cable and converts it to an audio signal. Amended independent Claims 20, 22 and 24 are method claims that recite similar language. Thus, a novel aspect of the claimed invention is that the microphone unit is connected to a two way radio using a detachable cable. Additionally, dependent claims 5 and 15 recite that the cable comprises a plug for connecting to a jack of said two way radio.

U.S. Patent No. 5,150,401 to Ashby, III et al.

U.S. Patent No. 5,150,401 to Ashby, III et al. ("Ashby") is identified in the background section of the present invention as highlighting the shortcomings of the prior art by relying on retrofitting. (See, page 2, lines 5-11.) Specifically, as discussed in column 10, lines 14-46 and shown in Fig. 2 of Ashby, a standard radio must undergo modifications in order to accommodate the other components of Ashby. Ashby discloses customizable circuitry for interconnecting encryption devices such as the codec, digital signal processor, data encryption device and memory medium into the conventional radio to convert the radio into an encryption/decryption device. The codec, retrofitted within the radio, is used for receiving the analog signals and for

converting those signals into digital, pulse code modulated (PCM) signals. The digital signal processor having a memory medium, retrofitted within the radio, is used for receiving and compressing each PCM signal into a plurality of sub-band codes and storing each sub-band code within the medium in accordance with a predetermined encoding algorithm.

U.S. Patent No. 4,134,070 to Henderson et al.

U.S. Patent No. 4,134,070 to Henderson et al. ("Henderson") teaches a modular radio that can be adapted for different mounting orientations. In a first embodiment of Henderson, illustrated by Figs. 6-9, the head 22 of the radio is removable from the main body 21 and the control plate 23 is detachable from the head 22. The head 22, body 21 and control plate 23 are all connected by a cable 34 which is not detachable. The head 22 and control plate 23 can be mounted on the main body 21 in various positions or mounted separately from the main body 21. The cable remains connected to all three modules at all times. According to this embodiment of Henderson, the head 22 and control plate 23 appear to include various control dials. However, this embodiment of Henderson does not disclose that either a cable or any signal processing circuitry is detachable from the main body 21 of the radio. Additionally, this embodiment of Henderson discloses only a single radio unit that includes detachable modules, not a separate unit that can be used with an existing radio.

In another embodiment illustrated by Figs. 10-12 of Henderson, a converter-indicator 82 is detachable from a main body portion 81 of an aviation radio 80. Extending from the rear of converter-indicator 82 are a wire pigtail 89 and a multipin connector 90. The mating multipin

connector 91, for connector 90, is mounted to a circuit board 92 internal to main body portion 81. When the converter-indicator 82 is detached from the main body portion 81, the connector 90 is detached as well; and an extension cord is use to connect the converter-indicator 82 to the main body portion 81. According to this embodiment of Henderson, the converter-indicator 82 appears to be only a visual display. This embodiment of Henderson does not disclose that any signal processing circuitry is detachable from the main body portion 81 of the radio.

Both embodiments of Henderson disclose only a single radio unit that includes detachable modules. Henderson does not disclose a separate unit that can be attached to an existing radio.

Argument

1. Ashby in view of Henderson does not disclose or suggest the claimed invention

a. Neither reference discloses a microphone unit connected to a two way analog radio via a detachable cable

Applicants respectfully submit that Ashby in view of Henderson does not disclose or suggest any of the claims of the present application. Claims 1 and 11 each recite a microphone unit for interfacing with a two way analog radio, said microphone unit comprising a cable adapted for detachable connection to said two way analog radio. Claims 20, 22 and 24 each recite connecting the microphone unit to said two way analog radio using a detachable cable. Each independent claim further recites that the microphone unit comprises a microphone, a digitizer, a voice coding device, an encryption module and a modulator. Additionally, dependent

claims 5 and 15 of the present application recite that the cable comprises a plug for connecting to a jack of said two way analog radio.

The system of Ashby is not a separate unit that is connected to a two way analog radio via a cable. Rather, the system of Ashby is retrofitted into or within a conventional radio unit (Abstract of Ashby, lines 2-4). As discussed in column 10, lines 14-46 and shown in Fig. 2 of Ashby, a standard radio must undergo modifications in order to accommodate the components of Ashby that are retrofitted within/ into the conventional radio. The Examiner states that column 7, lines 4-8 of Ashby discloses a cable that connects the microphone unit to the two way radio to provide said analog output as recited in the present application, while acknowledging that the cable in Ashby is not detachable. However, column 7, lines 4-8 of Ashby disclose that the system of Ashby is wired to the inside of the radio using a multicolored cable. A cable that is wired inside a radio is not the same as a cable that connects an existing radio to a separate microphone unit as in the claimed invention.

Henderson does not make up for this deficiency of Ashby. The Examiner states that it would have been obvious to one of ordinary skill in the art, having the teachings of Ashby and Henderson before him or her, to modify the radio of Ashby to include detachability as taught in Henderson. The Examiner further states that Henderson discloses a radio with a detachable control plate, removable head and cable (column 3, lines 11-12) and that these are detached from a plug (column 5, lines 49-52).

However, the cited passages of Henderson do not teach a detachable cable. Rather, as illustrated in Figs. 6-9 of Henderson, column 3, lines 11-12 of Henderson actually disclose a

control plate that is detachable, a head that is removable, and a cable that is not removable or detachable. The cable disclosed in column 3, line 12 of Henderson is the cable 34 shown in Figs. 6-9 which is attached at all times to the main body 21, the head 22, and the control plate 23 of the radio. Further, column 5, lines 49-52 of Henderson discloses only that four spring-plug openings 56 are employed as part of front surface 35 such that control plate 23 can be detached and reattached easily by the use of spring plugs 57. The spring plugs 57 of Henderson have nothing to do with the cable 34 of Henderson or any other cable or cable jack. Rather, the spring plugs 57 are simply mechanical elements that fasten the head 22 to the main body 21. Thus, the spring plugs of Henderson are not the same as the detachable cable of the present invention.

b. Neither reference discloses a microphone that is part of a microphone unit connected to a two way analog radio via a detachable cable

The system of Ashby does not include a microphone that is part of a microphone unit connected to a two way analog radio via a detachable cable. The Examiner states that column 5, lines 4-6 of Ashby discloses the claimed microphone for receiving an audible input and converting said analog input into an analog signal. However, column 5, lines 4-6 of Ashby simply state that Ashby includes a conventional radio having a microphone capable of receiving the analog signals. A microphone in a radio is not the same as a microphone that is part of a microphone unit that is separate from the radio. Nowhere does Ashby disclose a microphone that is part of a separate microphone unit that is connected to a radio via a detachable cable, as in the claimed invention. Henderson does not make up for this deficiency of Ashby.

c. The references are not properly combinable

Not only does the combination of Ashby and Henderson fail to disclose connecting a microphone unit to a two way analog radio with a detachable cable, but also there is no motivation to modify the references in this way. To the contrary, Ashby actually teaches away from this approach. It is well established in patent law that the prior art must be considered as a whole including those portions that teach away from the claimed invention. Here, rather than disclosing a detachable cable as in the claimed invention, Ashby teaches wiring the cable inside the radio. This is precisely the type of retrofit approach the claimed invention is aimed at avoiding.

Additionally, Henderson does not include any motivation to combine these references. The detachable modules of Henderson do not include and signal processing components such as those in the microphone unit of the present invention. The head 22 and control plate 23 of Henderson appear to have control knobs, but nowhere does Henderson disclose that any type of signal processing takes place in either of these modules. Similarly, although a second embodiment of Henderson discloses a converter-indicator 82 is detachable from a main body portion 81 of an aviation radio 80 via a multipin connector 90, the converter-indicator 82 appears to simply be a display. Nowhere does Henderson disclose or suggest anything whatsoever to do with signal processing. Further, the modules of Henderson are all part of the same radio unit. Nowhere does Henderson disclose any type of separate unit that interfaces with the radio, as in the claimed invention. Thus, nothing in Henderson suggests that it would be possible to have

signal processing devices such as a digitizer, a voice coding device, and encrypting device and a modulator that are contained in a separate unit from a radio and are connected to the radio unit by only a detachable cable.

For these reasons, modifying the modified two way radio of Ashby by the detachable display module of Henderson does not teach or suggest the claimed microphone unit of the present invention, which interfaces with the radio via a detachable cable and which comprises a digitizer, a voice coding device, an encrypting module and a modulator. Accordingly, each of the independent claims (1, 11, 20, 22 and 24), and all claims depending therefrom, patentably define over Ashby in view of Henderson. Therefore, the Examiner is respectfully requested to reconsider and withdraw the rejection.

VI. CONCLUSION

The claimed invention is not taught or suggested by the prior art. Accordingly, the Examiner is respectfully requested to reconsider the pending claims. And early Notice of Allowance is earnestly solicited.

Respectfully submitted,

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Stephen J. Driscoll
Synnestvedt & Lechner LLP
1101 Market Street
Suite 2600
Philadelphia, PA 19107
Telephone: 215-923-4466
Facsimile: 215-923-2189